



---

---

**HENRICO COUNTY  
MUNICIPAL SEPARATE STORM  
SEWER SYSTEM (MS4)  
INSPECTION**

**HENRICO  
DEPARTMENT OF PUBLIC WORKS  
10431 WOODMAN RD  
GLEN ALLEN, VA 23060**

**FINAL  
JULY 2010**

**U.S. Environmental Protection Agency, Region III  
Water Protection Division  
Office of NPDES Enforcement (3WP42)  
1650 Arch Street  
Philadelphia, PA 19103**

(This page intentionally left blank.)

**EXECUTIVE SUMMARY****Municipal Separate Storm Sewer System (MS4)  
Inspection Report  
Henrico County, Virginia**

From April 19 through 20, 2010, a compliance inspection team comprising staff from the U.S. Environmental Protection Agency (EPA) Region 3, Virginia Department of Conservation and Recreation (DCR), EPA's contractor, Eastern Research Group, Inc. (ERG), and ERG's subcontractor, PG Environmental, LLC, inspected the municipal separate storm sewer system (MS4) program of the County of Henrico, Virginia. Discharges from the County's MS4 are regulated by Virginia Pollution Discharge Elimination System (VPDES) Permit Number VA0088617, effective March 18, 2003. The purpose of this inspection was to evaluate compliance with the County's permit VA0088617, which is included in Attachment 1. The inspection focused specifically on the following sections of the permit in relation to the County's MS4 program: (1) Structural and Source Control Measures; (2) Unauthorized Discharges and Improper Disposal; (3) Runoff from Industrial and Commercial Facilities; and (4) Runoff from Construction Sites.

Based on the information obtained and reviewed, the EPA's compliance inspection team made several observations concerning the County's MS4 program related to the specific permit requirements evaluated. Table 1 summarizes the permit requirements and the observations noted by the inspection team.

**Table 1. Observations Identified During the Henrico Inspection (4/19/10 – 4/20/10)**

<b>Virginia Permit Number VA0088617 Requirement</b>	<b>Observations</b>
I.A.1.a – Structural and Source Control Measures	No observations for this element of the permit.
I.A.1.b – Unauthorized Discharges and Improper Disposal	Observation 1. Henrico County is unable to inspect all stormwater inlets and outfalls.  Observation 2. Henrico County does not document follow up actions taken after potential illicit discharges are found.  Observation 3. Henrico County does not confirm the location of outfalls that the County cannot find visually.

**Table 1. Observations Identified During the Henrico Inspection (4/19/10 – 4/20/10)**

<b>Virginia Permit Number VA0088617 Requirement</b>	<b>Observations</b>
I.A.1.c – Runoff from Industrial and Commercial Facilities	Observation 4. Henrico County does not schedule inspections as frequently as needed to monitor and control pollutants from municipal landfills.
	Observation 5. Henrico County has not established legal authority to inspect private industrial and commercial facilities for stormwater purposes.
	Observation 6. Henrico County is not completing all industrial and commercial facility inspections that the County has identified as necessary.
	Observation 7. Henrico County is not adequately identifying all facilities contributing substantial pollutant loadings.
	Observation 8. The Henrico County Industrial Inspector does not conduct the thorough inspections needed to monitor and control pollutants from industrial facilities.
	Observation 9. Henrico County is not adequately minimizing pollutant discharges from County industrial facilities.
I.A.1.d – Runoff from Construction Sites	Observation 10. Henrico County Environmental inspectors do not assess non-sediment, construction site pollutant sources.
	Observation 11. Henrico County's Erosion and Sediment Control inspection documentation was not in accordance with the Henrico County Erosion and Sediment Control Ordinance.
	Observation 12. Henrico County has not conducted a formal education and training class for construction site operators during its current MS4 permit term.

## TABLE OF CONTENTS

	Page
I. INTRODUCTION .....	1
II. HENRICO BACKGROUND .....	1
III. INFORMATION OBTAINED DURING THE INSPECTION REGARDING PERMIT REQUIREMENTS .....	2
III.A. Requirement I.A.1.a – Structural and Source Control Measures .....	2
III.B. Requirement I.A.1.b – Unauthorized Discharges and Improper Disposal .....	3
III.B.1. Dry Weather Screening Inspections .....	3
III.B.2. Dry Weather Screening Follow Up and Enforcement .....	5
III.C. Requirement I.A.1.c – Runoff from Industrial and Commercial Facilities .....	6
III.C.1. Identification and Prioritization of Industrial and Commercial Facility Inspections .....	6
III.C.2. Industrial and Commercial Facility Inspections .....	7
III.C.3. Industrial Facility Site Visits .....	8
III.C.4. County-owned Industrial Facilities .....	11
III.D. Requirement I.A.1.d – Runoff from Construction Sites .....	13
III.D.1. Erosion and Sediment Control Plan Review .....	13
III.D.2. Erosion and Sediment Control Inspections .....	13
III.D.3. Construction Site Visit .....	14
III.D.4. Education and Training for Construction Site Operators .....	15
Attachment 1: County of Henrico’s Permit (VPDES Permit VA0088617)	
Attachment 2: Sign-In Sheet	
Attachment 3: Exhibit Log	
Attachment 4: Photograph Log	

(This page intentionally left blank.)

## **I. INTRODUCTION**

From April 19 through 20, 2010, a compliance inspection team comprising staff from the U.S. Environmental Protection Agency (EPA) Region 3, Virginia Department of Conservation and Recreation (DCR), EPA's contractor, Eastern Research Group, Inc. (ERG), and ERG's subcontractor, PG Environmental, LLC, (hereafter, collectively, EPA inspection team) inspected the municipal separate storm sewer system (MS4) program of the County of Henrico, Virginia (hereafter, the County, Henrico, or the County of Henrico). Discharges from the County's MS4 are regulated by Virginia Pollution Discharge Elimination System (VPDES) Permit Number VA0088617, effective March 18, 2003. The purpose of this inspection was to evaluate compliance with the County's Virginia Pollution Discharge Elimination System (VPDES) Permit Number VA0088617 (hereafter, the permit), which is included in Attachment 1. The following personnel participated in this inspection:

Department of Public Works <sup>1</sup> :	Mr. Chris Winstead, Assistant Director Mr. Jeff Perry, Engineering & Environmental Services Division Manager Mr. Scott Jackson, Environmental Engineer Mr. Mike Hackett, Senior Environmental Inspector Ms. Olivia Hall, Environmental Inspector Mr. Keith White, Senior Engineer Mr. John Fowler, Environmental Engineer
Department of Fire:	Butch Jones, Deputy Fire Marshal
County Attorney's Office:	Ben Thorp
EPA Representatives:	Mr. Andrew Dinsmore, EPA Region 3, Stormwater Team Leader Ms. Allison Graham, EPA Region 3
Virginia DCR Representative:	Mr. Doug Fritz, MS4 Program Manager
EPA Contractors:	Mr. Mark Briggs, ERG Ms. Kavya Kasturi, ERG Mr. Scott Coulson, PG Environmental, LLC

The inspection focused specifically on the following sections of the permit in relation to the County's MS4 program: (1) Structural and Source Control Measures; (2) Unauthorized Discharges and Improper Disposal; (3) Runoff from Industrial and Commercial Facilities; and (4) Runoff from Construction Sites.

Section II of this report presents background information on Henrico's MS4 program. Section III presents information obtained during the inspection related to the specific permit requirements evaluated.

## **II. HENRICO BACKGROUND**

The County of Henrico is located in central Virginia and is bordered by the James River, Tuckahoe Creek, the Chickahominy River, the City of Richmond and the Counties of New Kent and Charles City. As of 2009, the County's population was estimated as 296,415. The County has a total area of 244 square miles.

---

<sup>1</sup> A copy of sign-sheets containing the names of all County participants in the inspection is included as Attachment 2.

Henrico's MS4 program is administered by the following departments:

- Department of Public Works;
- Department of Fire;
- Department of Public Utilities;
- Department of Building Construction and Inspections;
- Department of General Services; and
- Department of Planning.

### **III. INFORMATION OBTAINED DURING THE INSPECTION REGARDING PERMIT REQUIREMENTS**

The EPA inspection team obtained information to evaluate the County of Henrico's compliance with the requirements of the permit, under which the County's MS4 system is covered. The permit, included in Attachment 1, has an effective date of 18 March 2003 and an expiration date of 17 March 2008. The permit has not been renewed and it still active. The EPA inspection team evaluated four permit components; observations regarding the County's implementation of each permit component are presented in the following four subsections. Attachment 3, the Exhibit Log, contains all referenced exhibits, and Attachment 4, the Photograph Log, contains all referenced photographs (additional photographs are available in the inspection record).

#### **III.A. Requirement I.A.1.a – Structural and Source Control Measures**

Part I.A.1.a of the permit contains requirements for the County to utilize structural and source control measures to reduce pollutants in storm water runoff from commercial and residential areas, which the County addresses through a program herein referred to as its Structural and Source Control Measures Program. Within this program area, the inspection was focused on Parts I.A.1.a(1), (2), and (4) of the permit. State laws such as the Virginia Stormwater Management Law (§ 10-603 et seq. of the Virginia Code), the Virginia Stormwater Management Regulations (4VAC3-20 et seq.), and the Chesapeake Bay Preservation Act (§ 10.1-2100 et seq. of the Virginia Code) provide the underlying regulatory framework for the County's Structural and Source Control Measures Program. The County has promulgated the Henrico County Environmental Ordinance (County Code Chapter 10, *Environment*) which pertains to development and redevelopment in the county. The Henrico County Environmental Ordinance is relevant to both the active construction and post-construction phases of development. The Henrico County Environmental Ordinance, Article VII., *Stormwater Management*, Section 10-219, states "all stormwater management facilities, including Best Management Practices (BMPs) for water quality and quantity management, shall comply with the current edition of the Stormwater Guidelines Manual maintained by the county engineer."

The County's current Stormwater Guidelines Manual, the *Henrico County Environmental Program Manual*, dated August 2001, addresses a wide range of the County's water quality and quantity programs. As it applies to the County's Structural and Source Control Measures Program, the manual covers topics such as plan submission, design criteria for stormwater management best management practices (SWM-BMPs), and water quality compliance calculations for meeting the Chesapeake Bay Preservation Area (CBPA) Designation and Management Regulations (9VAC10-20 et seq.). For calculation of the required pollutant load reduction the County uses the Simple Method, a procedure which is described in the *Chesapeake Bay Local Assistance Manual*. The *Henrico County Environmental Program Manual* states that the County's average land cover condition is assumed to be 16 percent impervious, and phosphorus is



considered the keystone pollutant<sup>2</sup>. As indicated in the *Henrico County Environmental Program Manual* and explained by County staff, the application of the CBPA stormwater quality criteria was expanded to all areas within the County on June 23, 1993. Specifically, the stormwater quality criteria and resulting pollutant load reductions are applicable to all projects within the County that result in 2,500 square feet or more of land disturbance.

The primary staff responsible for the County's Structural and Source Control Measures Program include representatives of the Engineering and Environmental Services Division, an organizational division within the County Department of Public Works. The staff includes five Environmental Plan Review Engineers who review plans for compliance with requirements pertaining to SWM-BMPs in addition to other requirements such as drainage, road design, and landscaping. One Environmental Engineer is tasked with inspecting SWM-BMPs at construction sites during two phases of active construction: rough grading and final conformance. The County utilizes maintenance agreements in which the owner is responsible for both inspection and maintenance of SWM-BMPs located on private property.

For SWM-BMPs located within residential subdivisions where the County collected maintenance fees prior to recordation, the County provides long term maintenance (e.g., dredging) of extended detention basins and shallow marsh basins. Short term maintenance (e.g., mowing, trash collection) are provided by the developer or homeowner's association (HOA). For SWM-BMPs located in plan of development (POD) and certain subdivisions that did not contribute maintenance fees prior to recordation, maintenance is the responsibility of the landowner or HOA. Inspection and maintenance of County-owned SWM-BMPs is the responsibility of the individual County department where the facility is located.

On the basis of limited records review and an office discussion with County staff members, no inconsistencies between the County's Structural and Source Control Measures Program and the permit were identified.

### **III.B. Requirement I.A.1.b – Unauthorized Discharges and Improper Disposal**

Part I.A.1.b of the permit contains requirements for unauthorized non-stormwater discharges and improper disposal, which the County addresses through a program referred to as its illicit discharge program, detailed in Section II of the *Henrico County Storm Water Management Master Plan*, revised March 24, 2010 (hereafter, *County Storm Water Management Master Plan*). The *Henrico County Environmental Ordinance*, Article VII, *Stormwater Management* (hereafter, *Henrico County Storm Water Management Ordinance*) also prohibits illicit discharges to the MS4 (see Exhibit 1, SW Ordinance). In 2007, the County hired a new staff member to implement this program as well as the program to control runoff from industrial and commercial facilities (see section III.C. of this report). The new staff member was hired based on findings from an MS4 audit conducted in July 2005 by Science Applications International Corporation (SAIC) at the request of EPA (hereafter, the July 2005 MS4 audit). Within this program area, the inspection was focused on dry weather screening inspections and follow up and enforcement.

#### **III.B.1. Dry Weather Screening Inspections**

Henrico County conducts dry weather screening inspections to ensure any illicit discharges are detected and resolved. In 2007, the County Dry Weather Screening Inspector and additional staff inspected outfalls and storm sewer inlets. Due to limited resources, at the time of the inspection the County inspected only outfalls.

---

<sup>2</sup> The *Henrico County Environmental Program Manual* defines "keystone pollutant" as "a pollutant that is an indicator of many different pollutants and not necessarily the target pollutant."

The County has identified industrial and commercial areas with a high likelihood of illicit connections to the storm sewer. The County targeted food preparation facility areas (where discharges of fats, oils, and grease were possible) in 2009, and will investigate automobile maintenance facility areas in 2010 and laundry facility areas in 2011. County staff indicated the latter two categories were chosen based on the July 2005 MS4 audit.

The County Dry Weather Screening Inspector indicated he and supporting staff, including two interns and County mosquito control staff members, inspected 1,200 inlets and outfalls in 2007, 400 outfalls in 2008, and 150 outfalls in 2009. The inspector stated that the 2009 inspections were limited due to wet weather. The County requires five to seven days of dry weather prior to conducting dry weather screening inspections. The inspector indicated that the mosquito control staff informs him of potential issues if noted during their routine activities.

County dry weather screening inspectors are trained on the job and given the Field Screening Standard Operating Procedure to review (Exhibit 2, Field Screening SOP). Inspectors do not attend a formal training. Additionally, new staff within the Department of Public Works Environmental Services Division shadow staff to gain familiarity with the Division's programs.

Prior to beginning the day's inspections, the County Dry Weather Screening Inspector prints out maps, including storm sewers, of the areas to be inspected. The inspector brings the maps, blank inspection reports, a manhole puller, a chlorine test kit, and a camera on the inspections. The map is used to verify the number of outfalls and manholes. If a problem is noted, the outfall is circled on the map and an inspection report is completed (Exhibit 3, Blank Outfall Inspection Report). If no problem is found, a note is made in the tracking database indicating the outfall has been inspected.

During the inspection, the County Dry Weather Screening Inspector checks for standing water or flow. If flow is present, the inspector collects a sample and tests on site for chlorine and pH. The inspector stated that the presence of chlorine indicates that the flow is potable water. If the pH is less than 6 or greater than 8, this would indicate a problem; however, the inspector stated this condition had never been found. The inspector also notes the presence of an oily sheen, odor, or color in the water.

The County uses an Access database to track outfall inspections. This database is also used to track industrial inspections and spills. After the inspections are complete, the County Dry Weather Screening Inspector transfers data from the paper inspection reports into the database. The database fields correspond with the outfall inspection report used in 2007. Since then, the outfall inspection report has been updated, however, the database has not been updated accordingly. For example, the updated inspection report includes a question asking for the color of the flow present; however no corresponding field is present in the database. Additionally, questions no longer included in the inspection report have not been removed from the database. For example, the database still includes a "true or false" field titled "Fluoride Positive" but the question has been removed from the updated inspection report. Also, while the Inspector indicated that tests are conducted for chlorine and pH, there are no designated areas in the inspection report or the database to record this data. See the "Field Title" column of Exhibit 4, Outfall Inspection Database Entries for all database fields. This exhibit contains the database field names and the corresponding entries for four selected records from the County's outfall inspection database.

**Observation 1.           Henrico County is unable to inspect all stormwater inlets and outfalls.**

Part I.B.5 of the permit requires that Henrico County "provide adequate finances, staff, equipment and support capabilities to implement all parts of the Storm Water Management Program required by Part I.A of this permit." However, based on discussions with Henrico County's dry weather screening inspector, the inspector is unable to inspect all stormwater inlets and outfalls. The inspector indicated that in addition to illicit discharge inspections, he is responsible for industrial inspections, complaint response, and spill

response. In 2007, Henrico County inspected inlets and outfalls; however, the inspector stated that Henrico County has discontinued the inlet inspections and currently only inspects a limited number of outfalls annually. The number of inspections conducted by the county decreased from 1,200 in 2007 to 400 in 2008 and 150 in 2009. The Henrico County inspector stated that limited man-power prevents additional outfall inspections from occurring each year. The need for additional resources was previously mentioned in the July 2005 MS4 audit.

### **III.B.2. Dry Weather Screening Follow Up and Enforcement**

Inspectors have been instructed to investigate any problems at the time of the inspection. If flow is present, the inspector reviews the map and locates storm sewer inlets upstream of the outfall. The inspector traces the flow back to its origin. If the flow appears to be coming from an industrial facility, the inspector will meet with the facility manager at the time of the inspection to determine the cause of the flow. This meeting may trigger an industrial inspection at the site (see section III.C. of this report). The County Dry Weather Screening Inspector signs the outfall inspection report to indicate that the investigation was closed.

The County Dry Weather Screening Inspector also notes whether any repair or cleaning is needed for the outfall. The database contains a specific column to indicate whether cleaning is needed. Once a year, the County Dry Weather Screening Inspector generates a list of all the outfalls for which the “NeedsCleaning” field is marked “TRUE” and emails the list to the Road Maintenance Division. Road Maintenance staff enters the cleaning requests into their work order system and complete the requests as time is available. Road Maintenance staff informs the inspector as the requests are completed and the inspector then updates the database by changing the “NeedsCleaning” entry to “FALSE”. There are no other fields in the database specifically for recording any tracking information regarding the submittal and completion of the cleaning request.

#### **Observation 2. Henrico County does not document follow up actions taken after potential illicit discharges are found.**

Part I.A.1.b.(3) of the permit requires the County to “conduct on-site investigation of potential sources of unauthorized non-storm water discharges.” The County cannot confirm that this requirement has been met without documenting the investigation. In regards to this permit requirement, Section II.3 of the County Storm Water Management Master Plan specifies that the action taken to address each potential illicit discharge is documented. Upon review of the outfall inspection database, the EPA inspection team noted that a potential illicit discharge was identified during an inspection of SWO-0058 on 1/4/07 (see column “Entry Example 1” in Exhibit 4, Outfall Inspection Database Entries). The inspector stated that he investigated and determined that the source was not an illicit discharge; however, no documentation was present in the database or inspection report (Exhibit 5, SWO-0058 Inspection Report) that detailed the actions he took. After the EPA inspection team inquired about the documentation, the inspector added a note to the file, dated 4/26/10, stating the actions taken to close the file (Exhibit 6, SWO-0058 Follow Up). Additionally, the EPA inspection team found that the database record for an inspection of SWO-0101 on 1/18/07 stated that the water in the manhole needed investigation (see column “Entry Example 2” in Exhibit 4, Outfall Inspection Database Entries). No documentation was present in the database or inspection report (Exhibit 7, SWO-0101 Inspection Report) that detailed the actions taken. The inspection was completed by another inspector and the current inspector could not describe or provide documentation of the actions taken. The EPA inspection team also inquired about the database record for an inspection of SWO-0106 on 1/18/07 (see column “Entry Example 3” in Exhibit 4, Outfall Inspection Database Entries) which stated that “Orange color is present, odor is bad.” The inspector stated that iron bacteria was present in this outfall which was identified by breaking up the oily sheen and noting that it did not come back together. However, no documentation of this finding is present in the database. Additionally, no inspection

report was completed for SWO-0106. The observations were noted on the inspection report for SWO-0101 (Exhibit 7, SWO-0101 Inspection Report). The lack of documentation was previously mentioned in the July 2005 MS4 audit.

Additionally, The County's industrial and outfall inspection database is incomplete and inconsistent with paper records. The database record for the inspection of SWO-0058 includes comments not present on the paper record (see column "Entry Example 1" in Exhibit 4, Outfall Inspection Database Entries and Exhibit 5, SWO-0058 Inspection Report). Also, the column entitled "Closed" in the database, which the inspector explained was used to indicate that illicit discharges and maintenance issues had been resolved, had not been completed. The database does not contain a column to indicate the date of closure or actions taken to close an issue.

**Observation 3.           Henrico County does not confirm the location of outfalls that the County cannot find visually.**

The inspection database indicates that SWO-1454 was inspected on 1/24/08 and 5/21/09 (see columns "Entry Example 4" and "Entry Example 5" in Exhibit 4, Outfall Inspection Database Entries). In the first inspection record, it was noted that the pipe could not be seen due to dirt/debris. Similarly, in the second inspection record it was noted that the inspector "could not find outfall" and that it was "possibly buried." At the time of EPA's inspection, the inspector was not aware of the status of this outfall and stated he would follow up by speaking with Road Maintenance. On 4/23/10, the inspector indicated that he had spoken with Road Maintenance and learned that the outfall was not buried, but located in a different place than he had thought. Part I.A.1.b.(2) of the permit requires the permittee to "continue the implementation of current field screening procedures for identifying unauthorized non-storm water discharges." The County cannot satisfy this requirement without confirming the location of each outfall visually or with Road Maintenance.

**III.C.   Requirement I.A.1.c – Runoff from Industrial and Commercial Facilities**

Part I.A.1.c of the Permit contains requirements to monitor and control pollutants in storm water discharges from certain industrial and commercial facilities; the County's program to address this permit component is described in section III of the County Storm Water Management Master Plan. In 2007, the County hired a new staff member to implement this program as well as the County Illicit Discharge program (see section III.B. of this report). Within this program area, the inspection was focused on industrial and commercial facility identification and prioritization, inspections, and County industrial facility stormwater management.

**III.C.1. Identification and Prioritization of Industrial and Commercial Facility Inspections**

The County has identified 42 industrial and commercial facilities to inspect (Exhibit 8, Facility List); the County updates the list annually. The facilities include municipal landfills; hazardous waste treatment, storage, and disposal facilities; facilities subject to Section 313 of the Emergency Planning and Community Right to Know Act; and other facilities determined to be contributing substantial pollutant loadings. The County identifies other facilities determined to be contributing substantial pollutant loadings as those facilities that are covered under 9VAC25-151, *General VPDES Permit for Discharges of Storm Water Associated with Industrial Activity*, adopted April 27, 2009 (hereafter, Industrial General Permit). A list of these facilities is obtained from the State annually.

The inspection frequency varies by site and can be every year (11 facilities), every three years (7 facilities) or every five years (24 facilities). Generally, most facilities draining to the MS4 require annual inspection and each such facility is assigned a quarter during which it will be inspected. Facilities draining to the MS4

which have received “Non-Exposure Certification” from the State are inspected every three years. Municipal landfills and facilities that do not drain to the MS4 are inspected every five years.

Facilities are added to the list of facilities to be inspected annually if they are associated with a problem identified during dry weather screening inspections. These facilities are inspected annually, but are removed from the list after three problem-free inspections.

The County has also identified automobile maintenance facilities and laundries as priority categories for inspection. County staff indicated the categories were chosen based on the July 2005 MS4 audit. Automotive repair facilities will be identified and inspected in 2010, laundries in 2011.

**Observation 4.           Henrico County does not schedule inspections as frequently as needed to monitor and control pollutants from municipal landfills.**

Part I.A.1.c of the permit requires that Henrico County have a program to monitor and control pollutants in storm water discharges from municipal landfills. However, the County is not scheduling inspections as frequently as needed to meet this requirement. Henrico County’s list of industrial facilities indicates that two municipal landfills drain to the County’s MS4; however, the County indicates that these facilities only require inspections once every five years (Exhibit 8, Facility List). Records indicate that both landfills were last inspected in 2007 and are not due for reinspection until 2012 (Exhibit 9, Springfield Landfill Inspection Report and Exhibit 10, Charles City Road Public Use Area Inspection Report). A similar issue regarding the lack annual inspections at these municipal landfills was previously identified in the July 2005 MS4 audit.

**III.C.2. Industrial and Commercial Facility Inspections**

County staff stated that the County does not have legal authority to inspect industrial and commercial facilities for stormwater purposes without witnessing a problem that impacts the MS4<sup>3</sup>. Therefore, the County has developed a relationship with the industrial and commercial facilities allowing the County to inspect the facilities on a voluntary basis.

To prepare for an industrial inspection, the County Industrial Inspector typically notifies the facility one month in advance of the upcoming inspection. During this time, he prints out area maps, reviews the past inspection reports for the facility and reviews the facility’s stormwater pollution prevention plan (SWPPP) that is required by their coverage under the Industrial General Permit.

The County Industrial Inspector completes an industrial inspection report during each inspection. Once the inspector arrives on site, he meets with the facility manager or responsible stormwater management personnel. The inspection begins in the facility office where the inspector confirms general facility information and then reviews the SWPPP with the facility personnel, focusing on areas that impact the MS4 such as housekeeping, SWM-BMPs, and spill prevention and control. The inspector then tours the outside of the facility to identify any stormwater issues. If the inspector identifies problems impacting the MS4, he notes the problem in the inspection report and provides a timeframe for resolving the issue. For major issues, the inspector may issue a Notice of Violation.

---

<sup>3</sup> Note that Section III of the County Storm Water Management Master Plan states that “the legal authority to conduct inspections and require compliance is based on the fact they drain to the County’s storm sewer system for which the County holds a NPDES permit or the industry has an SIC code that is required to have a NPDES Industrial Permit with a Pollution Prevention Plan.” This contradicts statements made by County staff during the inspection. County staff stated they do not have legal authority to enforce a Storm Water Pollution Prevention Plan.

After the inspection, the County Industrial Inspector types up his handwritten inspection report, including recommended and required actions, and attaches a certification sheet that must be signed by the facility and the County inspector. The facility is then given a copy of the report. An example of a completed inspection report is provided as Exhibit 9, Springfield Landfill Inspection Report.

**Observation 5.           Henrico County has not established legal authority to inspect private industrial and commercial facilities for stormwater purposes.**

Part I.B.4 of the permit requires Henrico County to establish legal authority necessary to control discharges to and from those portions of the MS4 over which it has jurisdiction. Henrico County staff stated that the County did not have legal authority to inspect private industrial and commercial businesses with regard to stormwater discharges unless a release is suspected based on outfall screening information, or if other Henrico County agencies (e.g., Fire Marshall, sanitary district's pretreatment inspectors) identify a potential release. However, this contradicts Section III of the County Storm Water Management Master Plan; it appears that the County has the authority but is not using it. Henrico County currently relies on industrial and commercial facilities submitting to a voluntary inspection and notifies the facilities 30 days in advance of the inspection.

**Observation 6.           Henrico County is not completing all industrial and commercial facility inspections that the County has identified as necessary.**

Part I.B.5 of the permit requires that Henrico County "provide adequate finances, staff, equipment and support capabilities to implement all parts of the Storm Water Management Program required by Part I.A of this permit." County staff indicated that during the July 2005 MS4 audit, EPA identified both automobile maintenance facilities and laundries as potential sources of contaminated stormwater runoff. Due to a lack of inspection staff on the MS4 team, Henrico County has not inspected these facilities to date, and is now planning to begin inspection of automobile maintenance facilities in 2010 and laundries in 2011. Instead, Henrico County has focused on Fat, Oil and Grease (FOG) discharges from food preparation establishments (e.g., restaurants) to the sanitary sewer and storm sewer. In 2009, more than 200 FOG inspections were conducted by the Henrico County Building Inspectors office to determine if grease traps and grease recycling is occurring at food preparation establishments. The focus of this effort appears to be on sanitary sewer discharges rather than runoff to the MS4 since no Notices of Violations have been issued with regard to discharges to the MS4. While the FOG inspections are an important component of maintaining the sanitary sewer system, the County should also be inspecting discharges to the MS4 system.

Additionally, Henrico County relies on one inspector to conduct industrial inspections and outfall screening assessments. Of the hundreds of potential industrial and commercial facilities in Henrico County identified by the EPA inspection team, Henrico County has identified only 11 facilities to voluntarily inspect annually. Of these 11 facilities, only three were inspected every year between 2007 and 2009. Of the remaining eight facilities, six were missing inspections in one of the three years and two were missing inspections in two of the three years. In 2009, the County Industrial Inspector conducted 150 dry-weather outfall inspections to identify illicit discharges, although the inspector indicated that there are over 1,000 outfalls in Henrico County. The need for additional resources was previously mentioned in the July 2005 MS4 audit.

**III.C.3. Industrial Facility Site Visits**

On April 20, 2010, the EPA inspection team witnessed a series of industrial facility inspections performed by the County Industrial Inspector. Summary observations pertaining to the sites are presented below.

***Site: Powhatan Ready Mix – 4608 Racrete Rd, Richmond, VA***

Powhatan Ready Mix produces ready-mixed concrete for the Richmond area. Sand and stone are trucked in and stored in four silos. Additionally, the site has a silo for fly ash and two silos for cement. The raw materials are conveyed to mixing equipment where the aggregate is made. The aggregate is then loaded onto trucks and delivered. This facility had not previously been inspected or identified by the County and does not drain to the MS4.

The County Industrial Inspector began the inspection by meeting with the Plant Manager and Area Operations Manager in their office. The inspector reviewed general plant information including their address. The inspector requested to view their VPDES permit and SWPPP, then proceeded to ask questions to determine any potential areas for spills and or materials that could contact stormwater. The inspector then reviewed a map of storm sewer inlets with the plant personnel. At this time, the inspector realized that Powhatan Ready Mix, located at 4608 Racrete Rd, was a separate facility from Ready Mix Concrete, located at 4607 Racrete Rd, which he had intended to visit.

The County Industrial Inspector continued the inspection by touring the outdoor areas of the plant. The EPA inspection team made the following observations which were not noted by the County Industrial Inspector:

- Sediment and debris was present near the surface water outfall of a pit. Hay bales and rip rap were placed in front of and into the pit, respectively, in order to prevent sediment and debris from reaching the outfall to surface water.
- Stockpiles of sand and stone were not covered and were only contained on three of four sides.
- No spill kits were located near the fuel tanks. The site did have a spill kit; however, it was not stored in a readily-accessible area. The County Industrial Inspector did not ask about the location of the spill kits until prompted by the EPA inspection team.

***Site: Alfa Laval – 5400 International Trade Drive, Richmond, VA***

Alfa Laval manufactures heat exchangers. Industrial processes are primarily conducted indoors and drain to the sanitary sewer; however, metal compactors and some storage areas are present outdoors. Outdoor areas drain to a stormwater retention pond located on site and then drain to the MS4. The facility drains to the MS4 and was last inspected on March 17, 2010. The facility is subject to annual inspections.

The primary stormwater contact, the Environmental Health and Safety Coordinator, was unavailable during the site visit. The County Industrial Inspector met with an alternate contact; however, she was unable to provide the SWPPP and other relevant stormwater-related records. The inspector proceeded directly to touring the outdoor areas of the facility. The EPA inspection team first visited the stormwater detention pond, then viewed catch basins along the outside of a facility building, and concluded the inspection in the storage area. The EPA inspection team made the following observations which were not noted by the County Industrial Inspector:

- Piles of rusty metal were located in the outdoor storage area near a stormwater inlet. The piles were not covered. Rust-colored stains led from the piles to the stormwater inlet indicating that rust-laden water had flowed into the stormwater inlet.

- Uncovered drums were present in the outdoor storage area. Plant personnel confirmed that the drums were empty and stated that they would typically be stored in covered areas. The County Industrial Inspector did not ask about the drums until prompted by the EPA inspection team.

***Site: Ennis Paints – 4400 Vawter Ave, Richmond, VA***

Ennis Paints manufactures water-based traffic paint and thermoplastic pigments. Industrial processes are located indoors; however, finished paint totes are stored outside. Only the front of the plant, which primarily consists of grass and a parking lot, drains to the MS4. The majority of the facility area drains to a dry detention pond which then drains directly to state waters. The facility was last inspected on March 3, 2010.

The County Industrial Inspector began by interviewing the Environmental Health and Safety Manager. During the interview, it was determined that the plant had not yet completed updating its SWPPP and had not yet fully developed a spill response team. The inspector had identified the need for an updated SWPPP during the last inspection, but had not provided a time frame for completing the SWPPP. The interview also revealed that a spill had occurred since the last inspection. On March 12, 2010, an indoor latex tank ruptured releasing 800 gallons of 100% pure latex paint. The spill exited the facility underneath doors and through cracks in the foundation and, due to wet weather, was carried to the detention pond. The state was notified; however, the County was not notified since the spill did not reach the MS4. The facility plugged the pond's outfall to surface waters and pumped the contaminated water from the pond into tanks. The facility has received authorization to dump the water into the sanitary sewer.

After the interview, the inspection continued with a tour of the outdoor area of the facility. The EPA inspection team viewed the paved area, pond, and outfall to surface water located to the left of the plant. The team then viewed the remaining paved area and stormwater inlets, including the area where the spill reached the outdoors. The team concluded its visit at the front of the facility which drained to the County MS4. The EPA inspection team made the following observations which were not noted by the County Industrial Inspector:

- An uncovered dumpster was located outside.
- Soapy flow was entering a stormwater inlet leading to the pond. The Environmental Health and Safety Manager indicated it was coming from vehicle washing; however, he has previously stated no vehicle washing occurs on site. The County Industrial Inspector did not inquire further about the vehicle washing flow.
- No secondary containment was placed around finished paint totes. Numerous paint totes were present on site.
- Debris was located under a truck on site.
- Numerous paint stains were located around the facility.

**Observation 7.      Henrico County is not adequately identifying all facilities contributing substantial pollutant loadings.**

The EPA inspection team accompanied the industrial inspector to inspect Ready Mix Concrete at 4607 Racrete Rd; however, the team was taken to Powhatan Ready Mix at 4608 Racrete Rd by mistake. The inspector was not aware that Powhatan Ready Mix was a different plant from Ready Mix Concrete until the interview had begun. The plant personnel indicated that the plant had been located at this address for



more than 20 years; however, the plant was not on the list of facilities determined by the County to be contributing substantial pollutant loadings. Multiple other concrete plants were on the list. Part I.A.1.c of the permit requires the County to “control pollutants in storm water discharges from... facilities determined by the permittee to be contributing substantial pollutant loadings” however, the County cannot fulfill this requirement without identifying all such facilities and then prioritizing these facilities with regard to their potential pollutant loadings. A similar issue regarding the lack of a list of facilities contributing substantial pollutant loadings was previously identified in the July 2005 MS4 audit.

**Observation 8. The Henrico County Industrial Inspector does not conduct the thorough inspections needed to monitor and control pollutants from industrial facilities.**

Part I.A.1.c of the permit requires that Henrico County have a program to monitor and control pollutants in storm water discharges from industrial facilities. During an inspection conducted on April 20, 2010 with the EPA inspection team at Powhatan Ready Mix, the County Industrial Inspector did not note uncovered stockpiles of stone and sand (Exhibit 11, Powhatan Inspection Report). Additionally, the inspector did not ask about the spill kit for the fuel tanks until prompted by the EPA inspection team.

During an inspection conducted on April 20, 2010 with the EPA inspection team at Alfa Laval, a heat exchanger manufacturer, the County Industrial Inspector did not note evidence of rust flowing into the storm drain from uncovered rusty metal stored outside (Exhibit 12, Alfa Laval Inspection Report). Also, the inspector did not investigate drums stored outside until noted by the EPA inspection team.

An inspection at Ennis Paints on April 20, 2010 found the facility did not have a current SWPPP (Exhibit 13, Ennis Paints Inspection Report). Henrico County inspected this location on March 3, 2010 and had told Ennis Paints during that inspection that a complete SWPPP must be developed (Exhibit 14, Past Ennis Paints Inspection Report). Nearly 45 days later, the site had still not developed a complete SWPPP. The County Industrial Inspector stated he did not give Ennis Paints a time frame for completing the SWPPP. During this same time period Ennis Paints had a large paint spill inside the building which ultimately drained beneath a building door, onto a paved area and eventually into the on-site BMP before reaching the adjacent stream. The paint spill occurred during a wet-weather event which allowed the spilled paint to reach the stormwater BMP. Had a SWPPP been implemented in a timelier manner, Ennis Paints may have recognized that a spill originating in the building could ultimately reach the on-site BMP and then the river. Also during the inspection, the Ennis Paint Environmental Health and Safety Manager stated that no vehicle washing occurred on site; however, the County Industrial Inspector did not inquire further when flow from vehicle washing was found on site. The inspector also did not note paint stains located around the property, an uncovered dumpster located outside, debris located under a truck behind the plant, and the lack of secondary containment for totes of finished paint product.

**III.C.4. County-owned Industrial Facilities**

Henrico County has two government center campuses; one located in the west end of the County and one located in the east. The west end campus is the primary campus and includes a number of industrial facilities. On April 19, 2010, the EPA inspection team visited two of the industrial facilities: the Central Automotive Maintenance garage (CAM) and the County salt storage area. Neither facility was required to have a SWPPP. All referenced photographs are contained in Attachment 4, Photograph Log.

***Site: Henrico County Central Automotive Maintenance Garage – 10301 Woodman Road, Henrico, VA***

CAM is responsible for maintaining all County-owned vehicles, such as school busses, police cars, and garbage trucks. Two buildings house the maintenance areas, one for large vehicles and one for cars. The outdoor facilities include a washing station, waste oil storage, and vehicle storage. CAM drains to the

MS4; however, it has not been identified as a facility requiring inspection by the County Industrial Inspector.

During the EPA inspection team's site visit, the team toured the inside of the large vehicle maintenance building, viewed the outdoor areas and inlets to the storm sewer and oil-water separator on site, toured the small vehicle maintenance building and ended the visit in the parking area. During the site visit, the EPA inspection team observed the following:

- Waste oil tanks lacked secondary containment or interstitial leak detection (Photograph 1). While the tanks were double-walled, without interstitial leak detection, facility personnel would not be notified until the leak had breached the outer wall. There was no secondary containment to prevent such a leak from reaching the MS4. Additionally, drums were stored outside without cover or secondary containment (Photograph 2). It was not clear if the drums were empty or not. Other tanks without secondary containment were located near the parking area (Photograph 3).
- Uncovered dumpsters were present outside (Photograph 4).
- Oil spill stains were located in numerous locations around the site (Photographs 5 through 8).

After visiting CAM, the EPA inspection team and the County Industrial Inspector visited the County salt storage area. The area was open and not yet grassed. A salt dome, two tanks of magnesium chloride deicing solution, and a stormwater retention pond were located on site. A new infiltration trench was under construction.

The County Industrial Inspector indicated that the pond was used for settling and is not designed for salt removal. If a spill occurs, the pond is pumped out. A wetland was located downslope from the pond.

The EPA inspection team made the following observations while on site:

- Dark stains were located around the retention pond (Photographs 9 and 10). The County Industrial Inspector was not sure if the staining was from a release, or from moisture permeating through the soils.
- The silt fence behind the pond was compromised. A wetland was located downslope from the silt fence (Photograph 11).
- Thick algae build up was present in a small area of a swale leading to the pond (Photograph 12).
- Dead vegetation was present around a swale near the back of the facility (Photograph 13).
- Stockpiles of dirt and stone around the facility were not covered or contained (Photographs 14 and 15). Additionally, large debris, trash and branches, strewn near the back of the site, were not covered or contained (Photograph 16).

**Observation 9.           Henrico County is not adequately minimizing pollutant discharges from County industrial facilities.**

Part I.B.2. states that "the permittee shall ensure that all pollutants discharged from the municipal separate storm sewer system shall be reduced to the maximum extent practicable." The EPA inspection team toured Henrico County's Central Automotive Maintenance (CAM) facility and salt storage facility which both had

areas where storm water could contact pollutants. At the facilities, the EPA inspection team noted evidence of numerous oil spills in close proximity to storm drains, open dumpsters, outdoor above-ground petroleum storage tanks without secondary containment, compromised silt fencing near a wetland, and uncovered stockpiles. While neither facility was required to have a SWPPP, both have employed some structural and source control BMPs to control pollutant discharges in storm water. Neither facility has a BMP plan for the maintenance of the existing controls or installation of new controls.

### **III.D. Requirement I.A.1.d – Runoff from Construction Sites**

Part I.A.1.d of the permit requires a program to implement and maintain structural and nonstructural best management practices to reduce pollutants in storm water runoff from construction sites, which the County addresses through a program referred to as its Erosion and Sediment Control (ESC) Program. The County ESC Program components and applicable requirements related to this section of the permit are discussed below.

#### **III.D.1. Erosion and Sediment Control Plan Review**

The Henrico County Environmental Ordinance, Article II, *Erosion and Sediment Control* (hereafter, Henrico County Erosion and Sediment Control Ordinance) requires project proponents to submit an ESC plan for review and approval by the County when the project will result in 2,500 square feet or more of land disturbance. The Engineering and Environmental Services Division has one Environmental Engineer who reviews ESC plans for most private development projects. ESC plans for many of the County-administered projects (e.g., transportation) are reviewed by the County's Senior Environmental Inspector.

#### **III.D.2. Erosion and Sediment Control Inspections**

ESC inspections are conducted by County Department of Public Works Environmental Inspectors. There are eight Environmental Inspector positions assigned to geographic areas. The area assigned to an inspector is determined by the number and distribution of active projects, and the geographic boundaries are delineated by grouped watersheds. In response to a review of the County's ESC Program by DCR, one Environmental Inspector has been tasked with conducting ESC inspections of construction sites involving single family homes. The Virginia Erosion and Sediment Control Regulations, 4VAC50-30-060B, Maintenance and Inspections, requires Henrico County to "provide for an inspection during or immediately following initial installation of erosion and sediment controls, at least once in every two-week period, within 48 hours following any runoff producing storm event, and at the completion of the project prior to the release of any performance bonds."

A County Engineering and Environmental Services Division database is used to maintain ESC inspection records. If the County Environmental Inspector does not identify deficiencies during an ESC inspection, the inspection record is limited to recording the date of inspection in the database. When deficiencies are identified by the County Environmental Inspector, additional details are maintained in hardcopy files which include the County *Erosion and Sediment Control Inspection Report*.

#### **Observation 10. Henrico County Environmental inspectors do not assess non-sediment, construction site pollutant sources.**

Part I.A.1.d of the permit requires a "program to continue implementation and maintenance of structural and nonstructural best management practices [i.e., temporary construction site BMPs] to reduce *pollutants* in storm water runoff from construction sites" [emphasis added].

In contrast to this requirement, the County Environmental inspectors have not been tasked with assessing construction site pollutant sources other than sediment-generating sources. Section 10-31 of the Henrico

County Erosion and Sediment Control Ordinance states “the purpose of this article is to provide for the control of *erosion and sedimentation*....Authority for this article is found in [the Virginia Erosion and Sediment Control Law] Code of Virginia §§ 10.1-562 and 10.1-2108, as amended [emphasis added].” The Virginia Erosion and Sediment Control Regulations (4VAC50-30) have been promulgated to administer, implement, and enforce the Virginia Erosion and Sediment Control Law (§ 10.1-560 et seq. of the Virginia Code). However, the Virginia Erosion and Sediment Control Regulations pertain only to “erosion and sediment control concerns,” and mandate the adoption of erosion and sediment control programs by localities, which dictates the scope of the local program (Exhibit 15, VESCR). Further explanation is provided in the County Storm Water Management Master Plan. Specifically, the County Storm Water Management Master Plan, Section IV.2, Pre-Construction Meetings and Inspections, states “responsibility for inspection and enforcement rest with the Department of Public Works, who make periodic inspections of land-disturbing activities in accordance with State law.” Accordingly, the County’s inspection checklist does not include a non-sediment component or question set (Exhibit 16, ESC Inspection Checklist).

### **III.D.3. Construction Site Visit**

On April 20, 2010 the EPA inspection team witnessed an inspection of a Henrico County Public School construction site (West Area Middle School No. 1) performed by a County Environmental Inspector. Summary observations pertaining to the site visit are presented below.

#### ***Site: Henrico County Public School – West Area Middle School No. 1***

During the EPA inspection team’s site visit on April 20, 2010, deficiencies pertaining to non-sediment pollutants such as solid waste (Photographs 17 through 19), an oil product (Photograph 20), construction chemicals (Photographs 21 and 22), and concrete wash water were observed. Although the site operator had obtained coverage under the *Virginia Storm Water Management Program (VSMP) General Permit No. VAR10 for Discharges of Storm Water from Construction Activities*, effective July 31, 2009 (hereafter, Construction General Permit), the County-approved Erosion and Sediment Control Sheet was being used as the SWPPP site map for the construction site. Due to the limited scope of the County-approved Erosion and Sediment Control Sheet, the site map did not designate a location for a concrete wash-out area, a requirement of the Construction General Permit. Because a concrete wash-out BMP had not been designated at the site, concrete wash water was observed being actively released onto the ground surface (Photographs 23 through 29).

The County Environmental Inspector did not identify deficiencies pertaining to non-sediment pollutants while on site, and the deficiencies described in the preceding paragraph were not documented in the corresponding County *Erosion and Sediment Control Inspection Report* (Exhibit 17, County inspection record for West Area Middle School). Furthermore, the County’s Senior Environmental Inspector was present during the site visit, but did not express that the deficiencies pertaining to non-sediment pollutants were actionable deficiencies.

The EPA inspection team noted that the Henrico County Storm Water Management Ordinance may enable the County to address non-sediment, construction site pollutant sources such as: construction chemicals; vehicle and equipment maintenance and fueling; paving and grinding; spill prevention and control; solid waste; concrete waste and wash water; and sanitary/septic waste (e.g., portable toilets).

**Observation 11. Henrico County’s Erosion and Sediment Control inspection documentation was not in accordance with the Henrico County Erosion and Sediment Control Ordinance.**

Part I.A.1.d(1) of the permit requires Henrico County “to continue to operate in accordance with, and continue enforcement of, the stormwater management requirements of the Chapter 10, Environment, and Chapter 24, Zoning, of the Code of the County of Henrico Virginia, for land disturbing activities.”

Section 10-41 of the Henrico County Erosion and Sediment Control Ordinance states “inspection and enforcement under this article shall be the responsibility of the director [director of public works/county engineer] and his designees, who shall make periodic inspections of the land disturbing activity in accordance with [the Virginia Erosion and Sediment Control Regulations] 4VAC50-30-060B.”

The Virginia Erosion and Sediment Control Regulations, 4VAC50-30-060B, Maintenance and inspections, requires Henrico County to “provide for an inspection during or immediately following initial installation of erosion and sediment controls, at least once in every two-week period, *within 48 hours following any runoff producing storm event*, and at the completion of the project prior to the release of any performance bonds [emphasis added].” In contrast to this requirement, Henrico County does not maintain records to document the type of inspection performed (e.g., initial installation, two-week period, post-storm event, project completion). The County *Erosion and Sediment Control Inspection Report*, the inspection form used to document inspections, does not provide a structured format to facilitate documenting the inspection type (Exhibit 16, ESC Inspection Checklist). The County’s Senior Environmental Inspector indicated that storm events are not tracked, and precipitation records are not utilized to ensure that post-storm event inspections are conducted within the required 48 hour time period. The County’s Senior Environmental Inspector further explained that due to the limited number of County Environmental inspectors, the County relies on the judgment of its inspectors to conduct post-storm event inspections of those sites which are in critical stages of construction, rather than all sites. Under this approach, Henrico County does not maintain records to document that inspections are carried out in accordance with Section 10-41 of the Henrico County Erosion and Sediment Control Ordinance and the Virginia Erosion and Sediment Control Regulations.

**III.D.4. Education and Training for Construction Site Operators**

The County Storm Water Management Master Plan, Section IV.3, Construction Site Operators Education and Training Program, states that “construction site operators often need training and education about the sources, control, and impacts of pollutants in run-off from construction sites... The State has recently required contractors to obtain erosion and sediment control certification.” The Virginia Erosion and Sediment Control Training and Certification Program consists of two tracks: the Erosion and Sediment Control Certification Program and Responsible Land Disturber (RLD) Certificate of Competence Program. The Erosion and Sediment Control Certification Program is intended for local and state officials to obtain certain certifications (e.g., ESC Inspector, Program Administrator, Plan Reviewer, and Combined Administrator) to implement local government ESC programs. The RLD Certificate of Competence Program is aimed at a broader audience to provide the required certification to conduct a regulated land disturbing activity in the commonwealth. The RLD is the person responsible for day-to-day implementation and maintenance of all ESC measures in accordance with the County-approved plan. All construction projects are required to staff an individual who holds DCR certification as a RLD.

Henrico County relies on the Virginia Erosion and Sediment Control Training and Certification Program, and does not conduct its own formal education and training classes for construction site operators regarding the sources, control, and impacts of pollutants in run-off from construction sites. Accordingly, the *Henrico County Municipal Separate Storm Sewer System 2009 Virginia Pollutant Discharge*

*Elimination System Annual Report, VPDES Permit No. VA0088617*, states “no formal education classes were sponsored by the County for construction site operators during this permit year.” This issue was previously mentioned in the July 2005 MS4 audit which states “the County conducted a Site Contractor Workshop on November 7, 2002, which was a few months before the new RLD requirements were finalized.”

The County’s Senior Environmental Inspector explained that the County uses pre-construction meetings to educate construction site operators on site-specific issues. At the pre-construction meeting, the County’s Environmental Inspector will review the ESC plan with the RLD and ensure that the erosion and sediment control sequence and intent of the ESC plan is understood.

**Observation 12.        Henrico County has not conducted a formal education and training class for construction site operators during its current MS4 permit term.**

Part I.A.1.d(2) of the permit requires Henrico County to “continue implementation of the education and training program for construction site operators.”

In contrast to this requirement, the County’s Senior Environmental Inspector indicated that Henrico County had not conducted a formal education and training class for construction site operators since a site contractor workshop that was held on November 7, 2002 (Exhibit 18, Construction workshop syllabus). The County’s Senior Environmental Inspector also indicated that he found the 2002 site contractor workshop useful in reaching a broad audience, and covering many of the deficiencies commonly identified at construction sites by the County’s Environmental Inspectors. However, this workshop was held prior to the March 18, 2003 effective date of Henrico County’s MS4 permit, and the County therefore had not conducted a formal education and training class for construction site operators during its current permit term.